

## Ruby Drainage Upgrade Project

### Construction Report

The Ruby Drainage project should greatly improve the issues of flooding and icing in the area of the Post Office on Wildberry Road as well as intersections of Wildberry Road and Good Time Road with Poorman Road. Approximately 700 linear feet of road with ditching was done on Poorman Road and geotextile that was on site was also used to stabilize the road and anticipated to protect the road from erosion that happens during break up in the spring. Two of the 5 culverts on Poorman creek were 30" so they were replaced with 48" culvert so that all the culverts are congruous. One 60 foot 48" culvert crossing Poorman Road was left in place. The condition of the pipe was good. An additional "bonus" 50 ft. 48" culvert was placed on Little Loop with additional culvert the Tribe had on site and 10 ft. of salvaged culvert. With this "bonus" culvert all the crossings on Poorman Creek are now congruous and replaced or in good condition. The road grade had to be raised where new and replaced pipes needed sufficient cover and to provide for proper drainage into the system.

The design was finalized over the winter of 2017-2018 and the Tribe requested to add thaw pipes to the culverts. The four 48" pipes on the lower portion of Poorman creek have been fitted with 1" thaw pipe as well as the 30" culvert pipe in front of the Post Office on Wildberry Road that has had serious glaciating issues. The 50 ft. of additional 48" culvert on Little Loop was installed with pipe hangers so that it can be retrofitted with thaw pipe in the future.

In July of 2018 construction began on a 2 week schedule. 7 local people were hired and an Engineer/Superintendent. The project was substantially completed on time. In addition to the planned culverts, a 50 ft. culvert was replaced on Little Loop that completed the Poorman creek crossings. This culvert was provided with 48" culvert that the Ruby Tribal Council had on site and was not included in the contract as a match. Another 20' of 48" pipe in the Driveway that crosses Poorman creek nearest the outfall to the Yukon River was also pipe that was on site.

The construction went well with few obstacles. The most problematic issue to keep the project on schedule was keeping the dump trucks running. But parts to repair the trucks were expedited and the breakdowns did not adversely affect the schedule.

In August seed was ordered but due to a vender mishap the seed arrived too late for seeding this year and will have to be done next spring. In late September the Engineer returned to assist with installing the thaw pipe and fabricated outlet brackets. Concurrently, Thomas Wolf the Denali Commission Project Manager arrived to look at the project. The inlet and ditching in the area of the 50 ft. culvert on Little Loop was observed to need more finish work of the inlet and side slopes so the project Engineer ordered that work done after Mr. Wolf's departure. Final photos are included in this report.

In all the following quantities were installed and placed.

- 100 LF of 24" CMP
- 80 LF of 48" CMP
- 70 LF of 48" CMP (on site provided by RTC)
- 40 LF of 30" CMP
- 1200 CY of gravel

1200 Sq. Ft. of geotextile (on site provided by RTC)  
200 Lf of 1" Galv. thaw pipe

The project was completed on time but went over budget approximately \$19,000.00 due to thaw pipe materials and installation that were not in the original grant application as well as overruns on equipment repairs. The Tribe also donated additional 48" culvert for Little Loop. The added thaw pipe will enhance the effectiveness of this project provided they are maintained and utilized during freeze up. The project was an overall success and provides a substantial improvement to the drainage and road surface in the most needed areas of the Village of Ruby.

Photos and final map are included below.

Photos Before:



Poorman Rd. at Wildberry intersection



Wildberry Rd. at Poorman Rd. intersection





Wildberry Rd



Intersection of Wildberry Rd. and Kalakaket Rd.



Poorman Rd. and Good Time Rd. intersection



Existing 48" culvert on Wildberry Rd.

After Photos:



Poorman Rd. and Wildberry Rd. intersection



Wildberry Rd. and Poorman Rd. intersection



Wildberry Rd.



Wildberry Rd. and Kalakaket Rd.



Poorman Rd. and Good Time Rd. intersection



Poorman Rd. and Wildberry Rd. intersection

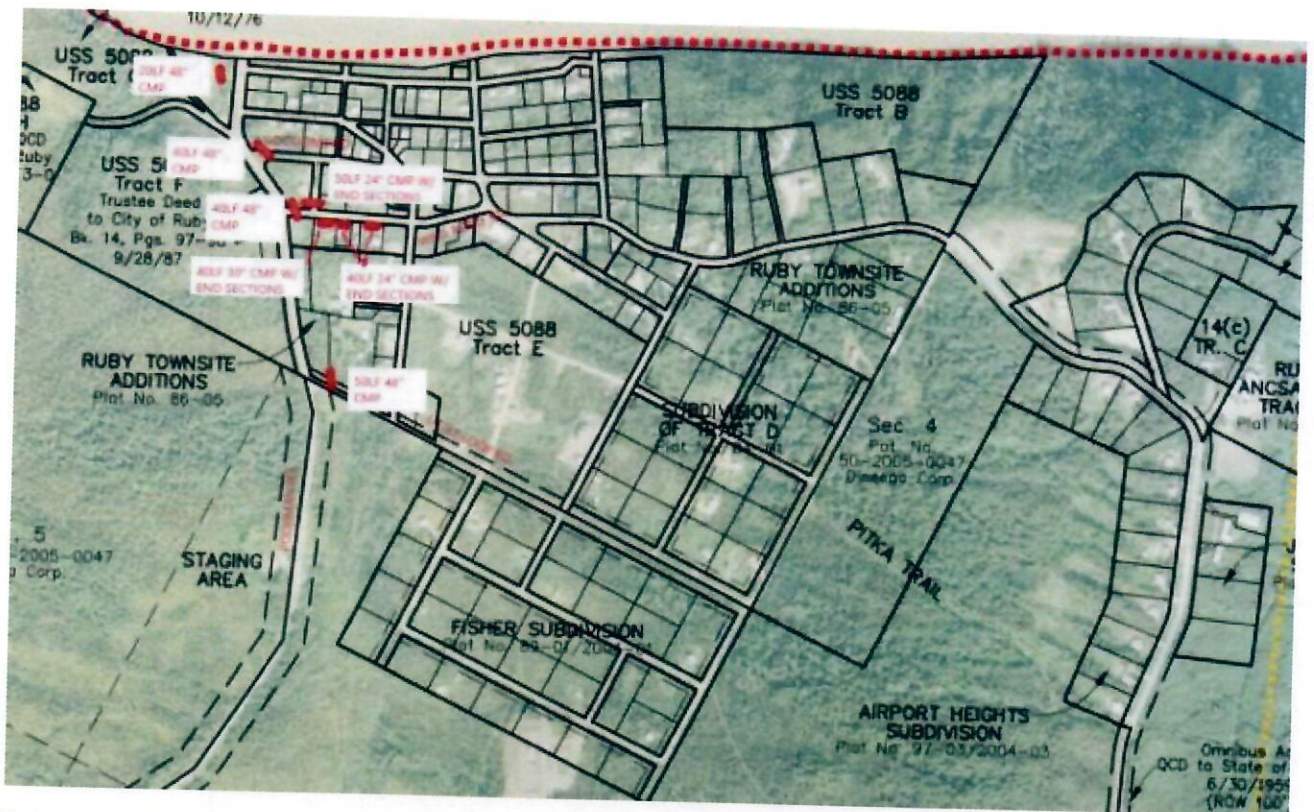


50 Ft. culvert on Little Loop (reworked after final inspection)





New 48" culvert on Wildberry Rd. with thaw pipe



Ruby Drainage Improvement Map